

Remarks

Currently pending are claims 1-4 and 6-16. In view of the above amendments and following remarks, Applicants respectfully request reconsideration by the Examiner, and advancement of the application to allowance.

35 U.S.C. § 103

The Examiner rejected claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over Hoffmann et al. (US Pat. No. 4,806,450) in view of Kawase et al. (US Pat No. 5,753,362).

As presently claimed, claim 1 is directed to a reaction product comprising:

a) acrylic acid or methacrylic acid or a mixture of acrylic acid and methacrylic acid and
b) a (meth)acrylic ester of substituted or unsubstituted phenol, C₁-C₈ hydroxyalkylbenzene or C₁-C₈ hydroxyalkoxybenzene and methyl(meth)acrylate in the ratio (percent by weight) of from 7.1:92.9 to 50:50, 5-90% of the acrylic or methacrylic acid units having reacted with a glycidylvinyl compound and wherein the ratio (percent by weight) of component a) to component b) is from 80:20 to 20:80. Support for this amendment can be found at, for example, paragraph [0032] of the published application.

In comparison, Hoffmann et al. teaches a photosensitive composition containing a copolymer consisting of: (i) 10-50% by weight of a hydroxyalkyl (meth)acrylate; (ii) 8-30% by weight of acrylic and/or (meth)acrylic acid; and (iii) 30-80% by weight of one or more alkyl acrylates, alkyl (meth)acrylates and/or vinyl aromatics with some of the carboxyl groups of the copolymer esterified by reaction with glycidyl (meth)acrylate.

The Examiner admits Hoffmann et al. does not teach that the copolymer can further contain a (meth)acrylic ester of substituted or unsubstituted phenol, C₁-C₈

hydroxyalkylbenzene or C₁-C₈ hydroxyalkoxyalkylbenzene and methyl (meth)acrylate in the ratio (percent by weight) of (meth)acrylic ester to methyl (meth)acrylate of 7.1:92.9 to 50:50 as presently claimed. Moreover, Applicants submit that Hoffman et al. also does not teach or suggest a copolymer having a ratio (percent by weight) of component a) (acrylic acid or methacrylic acid or a mixture thereof) to component b) (methacrylic ester and methyl (meth)acrylate) of 80:20 to 20:80 as presently claimed.

To remedy the deficiencies in Hoffmann et al., the Examiner cites Kawase et al. for its teaching of phenol (meth)acrylates. The Examiner contends it would have been obvious to combine Kawase et al. with Hoffmann et al. and polymerize benyl (meth)acrylate into the copolymer taught in Hoffmann et al. for the purpose of optimizing the glass transition temperature of Hoffmann et al.'s photosensitive composition.

Applicants respectfully submit that there is no teaching or suggestion in the publications cited above to make the combination the Examiner proposes and arrive at the presently claimed invention nor is there any reasonable expectation that such a combination would even be successful.

As noted above, Hoffmann et al. is directed to the use of its copolymer in a photosensitive composition. Hoffmann et al. emphasizes that it is a particular copolymer consisting of particular monomers described above at certain amounts which allows the photosensitive composition to exhibit, after imagewise exposure, good developability and little sensitivity to washout with aqueous alkaline developers. Hoffman et al. neither teaches nor suggests that monomers, other than those specifically taught, could also be incorporated into the copolymer. Thus, one of ordinary skill in the art would have no

apparent motivation to make the combination the Examiner asserts above for the purpose of solving a non-existing glass transition temperature related problem.

Furthermore, one of ordinary skill would have no reasonable expectation that the combination asserted by the Examiner above would even be successful. As noted above, Kawase et al. is directed to the use of a copolymer in an acrylic sheet. The copolymer is taught to have a high molecular weight and is prepared from (1) 60-99% by weight of a (meth)acrylic acid alkyl ester, such as methyl (meth)acrylate; (2) 0.1-15% by weight of a polymerizable monomer having a functional group, such as acrylic acid or (meth)acrylic acid; and (3) 0-39.9% of a copolymerizable monomer, such as benzyl (meth)acrylate. Kawase et al. further teaches that when the amount of the benzyl (meth)acrylate monomer used falls outside the taught range "the resulting [co]polymer does not show the desired properties." *U.S. 5,753,362* at col. 13, lines 33-54. Based on these teachings, as well as those in Hoffman et al., one reasonably skilled in the art has no way of predicting how incorporating benzyl (meth)acrylate into a completely different copolymer matrix, such as that in Hoffman et al., would effect the copolymer's performance. Moreover, the copolymer matrix in Hoffman et al. is used in connection with a completely different application than that of Kawase et al. (photosensitive recording element vs. an acrylic sheet) adding even more to the uncertainty.

In summary, Applicants respectfully submit the Examiner's conclusion of obviousness is based on hindsight reasoning since he has isolated a feature (an acrylate with a phenyl group in Kawase et al.) and construed a non-existing problem (glass transition in Hoffmann et al.) to combine two publications in non-related fields (photosensitive recording layer vs. acrylic sheet) to arrive at a result that has no

reasonable predictability of success. Accordingly, Applicants respectfully request the rejections under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

Applicants respectfully submit that the application is in condition for allowance, and respectfully requests issuance of a Notice of Allowance directed towards the pending claims.

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Respectfully Submitted,



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